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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,660	03/30/2004	Chien-Min Sung	22708	5907

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EXAMINER

YU, GINA C

ART UNIT	PAPER NUMBER
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1617

DATE MAILED: 07/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/814,660	Applicant(s) SUNG ET AL.	
	Examiner Gina C. Yu	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/28/04</u> . | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 2, 4, 5, 6, 25, and 26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 2, 4, 5, 6, 25, and 26, the phrase “formulated as a skin cleanser” and “formulated as a deodorant”, and “formulated as a dental filling”, “formulated as a lotion” render the claims vague and indefinite because the claims do not clearly set forth the required components to make the composition a cleanser, deodorant, a dental filling, or a lotion. For example, a cleanser, deodorant, a dental filling, and lotion may comprise a common ingredients such as dispersant or emulsifier, and are not distinctive from one another. The names of these compositions denote the intended use of the compositions rather than the components that make up the each formulation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

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Claims 19-22 and 24-27 are rejected under 35 U.S.C. 102(b) as being anticipated by Raty et al. (Ultradispersity of diamond at the nanoscale, Nature Materials, December 2003, Vol. 2, p. 792-5).

Raty discloses that ultrananocrystalline diamond films, due to its surface hydrophobicity, is "ideal for support of biological molecules such as DNA". See p. 739, 1st-3rd par: instant claims 24 and 27. The reference also teaches that nanocrystalline diamonds have diameters of about 10 nm or only a few nm in size. See 1st par.; instant claims 21-22. In claims 25 and 26, the phrases "formulated as a skin cleanser", and "formulated as a deodorant" refer to the intended future use of the formulations and do not render any structural limitations. Thus no patentable weights are afforded to these terms. See MPEP § 2111.02.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-13 and 15-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davies (US 4482538) in view of Raty et al.

In claim 1, the term “remedial healthcare” also denotes the intended use or purpose of the composition rather than the structural limitation of the claimed invention. See MPEP 2111.02. Also in claims 2, 4-6, 11, and 12, the phrases “formulated as a skin cleanser”, “formulated as a deodorant”, and “formulated as a dental filling”, “formulated as a lotion” etc., refer to the intended future use of the formulations and do not render any structural limitations. Thus no patentable weights are afforded to these terms.

Davies teaches that that it is well known in cosmetic art to incorporate diamond particles in nail varnishes and polishes to provide the nails with wear-resistant coating and a sparkle. See col. 1, lines 10 – 18. To overcome the problem of maintaining the suspension of diamond particles, the reference teaches using a Bingham plastic as the liquid base. See col. 1, lines 41 – 44. Colloid silica is added to make the liquid base having Bingham plastic characteristics, which meet the limitation, “viscous biologically acceptable carrier” of instant claims 3 and 13. See col. 2, lines 40 – 53. See also col. 2, lines 15 – 39 for claims 3, and 13. The reference also teaches using abrasive diamond particles having the size of 6-12 microns in amount not exceeding 2.5 gms per 100 ml of the liquid base. See col. 2, lines 54 – 65; instant claims 7, 8, 15, 23.

Davies fails to teach diamond particles having the recited particle size range.

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Raty teaches that nanodiamonds having diameters of about 10 nm have ultradispersity due to their very narrow size distribution. See p. 793, 1st full par. See instant claims 8, 9, 16, and 17.

Claim 18 is a product by process claim. “[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process.” See In re Thorpe, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985). In this case, since the prior art nanodiamond particles meet all the limitation of the claimed in the present invention, no patentable weight is given to the process by which the claimed nanodiamond particles are made.

It would have been obvious to one of ordinary skill in the art to modify the composition of Davies by substituting the diamond particles therein with nanodiamonds as motivated by Raty because 1) Davies teaches the use of diamond particles in cosmetic nail polish and addresses the problem of suspending the particles in the liquid base; and 2) Raty teaches that nanodiamonds have ultradispersity. The skilled artisan would have had a reasonable expectation of successfully producing a nail polish comprising nanodiamond particles which is stably dispersed in the composition.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davies and Raty as applied to claims 1-13 and 15-27 above, and further in view of Flick (Cosmetics Additives, 1991).

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Davies fails to teach stearalkonium hectorite.

Flick teaches that stearalkonium hectorite is the reaction products of an organic quaternary amine with hectorite, which is used as a gelling agent for oils, solvents, or synthetic liquids. See p. 635. The reference also teaches that stearalkonium hectorite produces reproducible thixotropic viscosity, suspends pigments, pearl essence and active ingredients, controls application, reduces dripping and running, imparts good leveling, reduces syneresis, imparts heat stability, reducing high temperature running and dripping, and improves emulsion stability. See Advantages. Flick teaches that stearalkonium hectorite is used in intermediate to high polarity organic systems such as esters and triglycerides, and has application in formulating nail lacquers and antiperspirants.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the nail polish composition of the combined references by adding stearalkonium hectorite as motivated by Flick because 1) Davies teaches a nail polish; and 2) Flick teaches that the stearalkonium hectorite is a conventional rheological additive used to formulate nail lacquers which imparts reproducible thixotropic viscosity and suspends pigments, pearl essence and active ingredients. The skilled artisan would have had a reasonable expectation of successfully producing a nail polish composition with improved stability.

Conclusion

No claims are allowed.

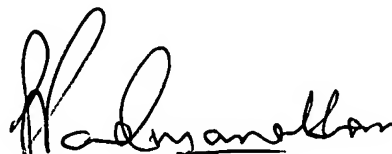
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gina C. Yu whose telephone number is 571-272-8605. The examiner can normally be reached on Monday through Friday, from 7:00AM until 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on 571-272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gina Yu
Patent Examiner



SREENI PADMANABHAN
SUPERVISORY PATENT EXAMINER